

XXVIII.—*On the Rosy Ibis of China and Japan* (Ibis nippon).

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IMAGINE my delight on learning, when I arrived at Ningpo, that the Rosy Ibis was a resident in the vicinity, and known to the natives as the *Tien-go* or “Celestial Goose”! During the closing months of last year I saw small parties of them at dusk flying towards the hills; and on the 31st Dec., 1872, in the forenoon, a pair flew over me in a small valley; and the male, perching on the broken top of a very tall pine, kept throwing his head forward and crying *now, now*, in a loud hoarse voice. It was his love-note. My comrade shot it; but it fell where it stood, and we could get no one to climb the giant smooth stem. In April I was told that they were putting on their dark breeding-feathers; and on the 6th May, Père David, who had returned from a month’s trip up country, assured me that he had got the same form of Ibis of a grey colour, and considered it of a new species. He laughed at the idea of its being a young bird, as he had seen large numbers of them; he said that the Chinese recognized them as distinct under the name *Hwuy-go* or “Grey Goose,” and he believed they were breeding among the high trees. A countryman had brought me five eggs of Ibis, and offered them as those of Crows. He had taken them from two Crow-like nests on the tops of high pines about the 16th of March. On the 10th of June I had the good fortune to get a wild Grey Ibis. It was a full-fledged bird of the year, and very tame, had apparently been kept a long time in captivity, refused to eat fish, and showed a preference for raw beef. Its cheeks and over the eye were covered with small downy feathers, while the rest of its face was bare and coloured orange-yellow instead of red. Its bill was deep brown, the tip light orange-brown. Irides light yellowish brown. Legs and feet light brown, with a tinge of orange flesh-colour. Its plumage was of a dusky cream-colour washed lightly with rosy, brighter on the concealed parts of the feathers. Primary quills blackish brown at their ends. It had the full occipital crest of the adult, which it delighted in expanding. It rarely raised itself to its full

height, and then only as a preliminary to shaking and preening itself. I sent this fine bird to the Zoological Society's Gardens, where I hear it is now safely domiciled*.

On the 23rd of August I was on our Western Lake and saw large parties of this Ibis, white birds and dusky birds in company together.

On the 18th November I was there again, and came across very large flocks of them; but all were white and rose-coloured, not a grey bird among them. I shot three—an adult male, a male of the year, and a female of the year. The lake-dwellers call them *Hong- (Red) le*, as they call the Heron *Sah-le*. We were moored near a shallow at one end of the lake, and had the gratification of seeing a large party of Ibises alight about 100 yards off to feed. They settled in the muddy shallow water, which covered their legs up to their tarsal knees, and assumed a crouching position, looking as small as Curlews. After remaining perfectly still for a few minutes, they put their bills into the water and advanced, brandishing their bills under water right and left, and thrusting them forward; any thing caught was jerked into the bill by a few nods of the head. They must have felt their prey; the water was too muddy to see into. There was no darting at it as with Herons, or walking about and probing mud as with Curlews, or slashing liquid mud with the beak as with Avocets. Every time I saw them feeding it was thus up to their knees in muddy water; and their captures were small fish, as dissection afterwards proved. As each grew tired of feeding, or had had enough, he flew on to a ridge of earth close by, stretched himself, yawned, shook his feathers, scratched and preened a little, and then sank to the usual contracted position, and remained quite still. As I approached they did not raise their heads to full length, as Ducks and Herons &c. do when disturbed, but sprang into the air direct from their crouching attitude, their flammeous wings making quite a glow as if under the light of the rising or the setting sun, their bills chattering, and uttering a "gaw"-like murmur, with cries of a guttural sound like *gok, gok*, as they flapped to a safer ground. They

* [It arrived in November last (see P. Z. S. 1872, p. 862.), but unfortunately died April 23.—ED.]

fly with steady flap, the legs stretched behind, reaching just a little beyond the tail, the head full forward, the bill and forehead looking black.

Adult male.—Total length 31 inches; wing $16\frac{1}{4}$; tail $6\frac{1}{2}$. Bill to gape 7; tarse $3\frac{1}{2}$; middle toe 3, its claw .6; bare part of tibia 2. First five quills sinuated on the inner web. First primary quill 3 inches shorter than the third, the longest in the wing; the second four tenths shorter than the same; tertiaries extending $1\frac{1}{2}$ inch beyond tip of primaries. Legs Indian-red, with light-reddish-brown claws. Bill black, with $1\frac{1}{2}$ inch of apex of upper, and $\frac{1}{2}$ inch of lower mandible vermilion. Face-skin like transversely wrinkled raw beef. Iris vermilion.

Male after autumnal moult.—Face-skin as in the last; a few fibrous feathers still projecting over the ear from its front corner. Bill black, becoming red at tip. Iris scarlet. Legs paler, with front of tarse and toes blackened except at joints; claws black. Outer quills still more or less brown. General plumage rosy; wings shorter than in the adult, and wanting its flammeous lateral rectrices, moulting into the flame-colour of the adult dress.

Female after autumnal moult.—Smaller bird, with shorter bill. Plumage as in the last. Iris paler. Legs and feet paler, without the black.

The plumage of the adult is of a lovely rosy white, the feathers blushing deeper on their hidden portions; but, like the same tint in Terns, it fades away on skins. The wings and tail have vermilion stems, and webs glowing with “une jolie nuance aurore,” as the ‘Fauna Japonica’ aptly terms it.

Dissection of male of first year.—Proventriculus granulated beneath the outer surface, $1\frac{3}{4}$ inch long, .9 at broadest. Stomach of an irregular oval, with strong lateral tendons, and gummy adnate epithelium, $2\frac{3}{4}$ inches long by $2\frac{1}{4}$ broad, full of half-digested little fish and a few small shrimps. Intestine white, .2–.4 thick, about 6 feet long, with cæca 3 inches from the anus, the right one about .4 long, the left little more than a pimple. Testes small and bluish black, the left twice the size of the right. (I would here remark that most birds

of the year, in other groups that I have examined, have small blackish testes during the winter.) I had some of its flesh cooked, and found it coarse and fishy to the taste.

Dissection of female of the year.—Ovary small. Stomach containing fish and a few water-bugs (*Naucoris*).

Dissection of adult male.—Stomach containing the remains of small fish. Testes much larger than in younger bird, also unequal in size, of an ochreous yellow. The whole of the flesh, fat, cartilage, and bone saturated with the vermilion tint that appears on the wings and soft external parts of the bird. What the chemical nature of this permeating juice is I do not know. It does not occur in the younger birds; and I have not noticed it in any other species.

The trachea is the same in all these specimens, its length $6\frac{1}{2}$ inches. It consists of a series of rings closely succeeding one another, alternately broad on one side and narrow on the other, until, just before reaching the bronchi, four or five uniform rings occur, ending in a projecting semicircle of bone, the thickness of two of the broad parts of the upper rings; below this two crescentic bony ridges commence the short bronchi. The trachea averages about $\cdot 5$ in. in breadth, becoming narrower towards its end. In a young Heron (*Ardea cinerea*) of the year the trachea attains the great length of $15\frac{1}{2}$ inches, is of uniform breadth, not half that of the other, and consists of nearly uniform rings, separated from each other by a narrow membrane, with a small round perforation on the upper edge of each ring.

The tongue of the Ibis is short ($\cdot 6$ inch) and triangular, with a concave papillose base; the hyoids thick and curved, the first joint $1\cdot 4$, the second $\cdot 8$ long.

The tongue of the Heron is long (2 inches) and spear-like; its hyoids thin and nearly straight, the first $1\cdot 8$, the second $\cdot 4$.

I bring the Heron to the fore in comparison with the Ibis, because some suppose affinity between them (see Hewitson, Eggs of B. B.). But in the two important organs just examined there appears to be no relationship. No more is there in the form of the sternum.

The Rosy Ibis often breeds in company, but often also in

pairs by themselves. Their nests I have not examined; but they must be warmly lined, as the older birds have eggs in January and even earlier, when the country is under hard frost, and there is often snow on the ground; for the young are fully fledged and have the appearance of adult birds by April. (N.B. Père David mistook them in that month for birds breeding, and believed it even after he had procured a specimen.) The young retain their grey plumage throughout the summer, associating with adults, even while the latter are continuing their nesting-duties, and moult about October, when they change their attire for a white robe with a tinge only of rosiness, their wings and tail alone remaining the same; but these get abraded and the former fades, and occasionally some quills are cast, to be renewed by others of the early spring suit which these birds of the year put on before breeding. These must therefore be later in commencing operations, which dissection shows to be the case. Of the eggs before mentioned, three measured each about 2 inches in length by 1.25 in breadth; the other two were larger, measuring each 2.6 by 1.6. They had a rough surface, and were of a pale bluish-green colour. The man who brought them to me was positive that the larger ones were the eggs of a Crow, the smaller those of a Magpie.

In its comportment the Ibis is not at all a Heron. I should think its affinities lay rather with the Spoonbills*, or with the larger *Tantali*, which connect it with the Storks. It has, however, peculiarities of its own, bearing off in different directions; and I hope I shall be able to learn something more about it. The Chinese are evidently puzzled at its appearance when they style it a "Heavenly Goose." We might be nearer the mark if we said it was a "queer Stork."

* [There can be no doubt, we believe, that the Ibises and Spoonbills should be united in one family (Plataleidae). Cf. Nitzsch, Pterylography, Engl. Transl. p. 134. *Tantalus*, however, belongs to the Ciconiidae.—ED.]